Comparative morbidity and charges associated with route of hysterectomy and concomitant Burch colposuspension

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Abdominal versus vaginal hysterectomy with Burch colposuspension in women with uterine disease and coexisting stress incontinence.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Women with uterine disease and coexisting stress incontinence, who underwent Burch colposuspension with concomitant vaginal or abdominal hysterectomy.

Setting
Hospital. The economic study was carried out in the USA.

Dates to which data relate
The effectiveness and charge data corresponded to the period between 1992 and 1996. The fiscal year was not specified.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was retrospectively performed on the same patient sample as that used in the effectiveness study.

Study sample
Power calculations were used to determine the sample size (in order to identify 20% difference in hospital charges between the study groups with a beta error of 20% and an alpha error of 5%, 35 subjects were required). A total of 80 women were included in the study. Both the vaginal and the abdominal group consisted of 40 subjects. The average (standard deviation) age of women in the vaginal group was 46 (9.5) years versus 46.8 (8.8) years in the abdominal group.
Study design
A non-randomized controlled trial with concurrent controls was carried out in two centres. The duration of the follow-up was until discharge or readmission. No loss to follow-up was reported.

Analysis of effectiveness
The principle used in the analysis of effectiveness was treatment completers only since the study excluded those women who experienced failed vaginal hysterectomy. The primary health measures were postoperative hemoglobin and hematocrit decreases, intraoperative complications, and postoperative complications. The groups were comparable in terms of demographic features, gynecologic and surgical histories, and indication for hysterectomy.

Effectiveness results
The vaginal group had average (SD) hemoglobin and hematocrit decreases of 2.3 (1.0) mg/dL and 7.2 (3.1%)/dL, respectively, versus 2.5 (1.2) mg/dL and 7.2 (3.6%)/dL for the abdominal group. There was no incidence of intraoperative complications in either group. The vaginal group experienced a postoperative complication rate of 10% versus 23% for the abdominal group. The differences between the groups in terms of the above-mentioned measures did not achieve statistical significance.

Clinical conclusions
The study revealed the equal effectiveness of both health technologies involved in terms of the health outcomes measured.

Measure of benefits used in the economic analysis
No summary benefit measure was identified in the economic analysis, and only separate clinical outcomes were reported.

Direct costs
Resource quantities were not reported separately from the costs. The cost items were not reported separately. Charges were used instead of costs. The total hospital charges including operative charges and charges related to postoperative hospital stay and readmission because of complications were retrospectively extracted from the hospital billing records. The price date was not explicitly specified. The surgeon’s fee was not included in the cost analysis.

Statistical analysis of costs
Student's t test was used to compare the groups in terms of the charges.

Indirect Costs
Not included.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
Not applicable.
Cost results
The vaginal group had an average (SD) total hospital charge of $6,342 (1,124) versus $7,503 (1,828) for the abdominal group (p<0.002).

Synthesis of costs and benefits
Costs and benefits were not combined since the policy of performing vaginal hysterectomy was the weakly dominant strategy.

Authors' conclusions
When hysterectomy is performed at the time of colposuspension, the vaginal route should be considered seriously when either surgical approach is clinically appropriate.

CRD COMMENTARY - Selection of comparators
None of the health technologies were regarded as the comparator since the choice of the procedure was claimed to be based on the physician's preference because of lack of objective criteria for comparison.

Validity of estimate of measure of effectiveness
The internal validity of the estimates of effectiveness may be weakened by the lack of randomisation.

Validity of estimate of costs
The resource utilisation was not reported separately from the costs and adequate details of methods of cost estimation were not given. The study suffered from the lack of a prospective and comprehensive cost analysis.

Other issues
Given the lack of randomisation and sensitivity analysis of the costs, the study results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed.

Implications of the study
A more reliable assessment of the relative benefits would come from a randomized controlled trial.

Source of funding
None stated.

Bibliographic details

PubMedID
9207810

DOI
10.1016/S0029-7844(97)00178-6

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Aged; Female; Hospital Charges; Humans; Hysterectomy /adverse effects /economics; Intraoperative Complications /epidemiology /etiology; Middle Aged; Postoperative Complications /economics /epidemiology /etiology; Urinary Incontinence, Stress /economics /surgery; Vagina
AccessionNumber
21997006962

Date bibliographic record published
31/07/1999

Date abstract record published
31/07/1999